

1044b UIC - EAST POPLAR OIL FIELD  
ENFORCEMENT CASE SDWA 1431  
Folder ID: 13630 1973 Privileged

Release in full

Region 8



13630

HISTORY

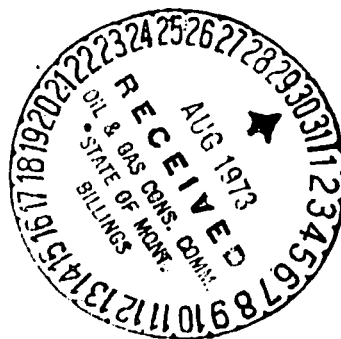
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AMARCO RESOURCES CORPORATION

NO. 1-27 U.S.A. (SCHMIDT)

NW $\frac{1}{4}$ NW $\frac{1}{4}$  SECTION 27, TWP. 28 NORTH, RGE. 51 EAST

ROOSEVELT COUNTY, MONTANA  
\*\*\*\*\*

ROBERT D. SNYDER  
PETROLEUM ENGINEER  
JULY 18, 1973





AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)H I S T O R Y

| <u>DATE</u> | <u>DEPTH</u> |           | <u>FORMATION</u> | <u>REMARKS</u>  |
|-------------|--------------|-----------|------------------|---|
|             | <u>FROM</u>  | <u>TO</u> |                  |   |
| 4-27-73     |              |           |                  | Staked location 660' FNL & 660' FWL, Section 27, Twp. 28 North, Rge. 51 East, Roosevelt Co., Mont., by Powers Elevation Survey Company. Elevation: 2077' Ground.  |
| 5-1-73      |              |           |                  | Made application for Permit with U.S.G.S.   |
| 5-24-73     |              |           |                  | Application for Permit to Drill approved by U.S.G.S.  |
| 6-13-73     |              |           |                  | Dug pits, leveled location.   |
| 6-18-73     |              |           |                  | Moving Rotary Rig to location from North Dakota.<br>Contractor: Cardinal Petroleum Co. Rig No. 2.   |
| 6-19-73     |              |           |                  | Rigged up rotary rig.   |
| 6-20-73     | 0            | 159       | Gravel & Shale   | Spudded 1:00 A.M. Drilled 15" hole. Ran and cemented 4 jts. (124') of 13-3/8" O.D. 41# & 63# with Centralizer on bottom jt. collar with 210 sax cement, 3% CaCl, 1/4#/bbl. flocele by Dowell. Plug down @ 4:30 P.M. Deviation 1/4 deg. @ 159. W.O.C.  |
| 6-21-73     | 159          | 1015      | Shale            | Drilled 12-1/4" hole. Ran and cemented 31 jts. (992') of 8-5/8" O.D. 24#, New Canadian Casing, 8rd. thd. @ 1002' with 400 sax Pozmix Cement, mixed with 6% gel, 2% Ca Cl and 1/4th# flocele followed by 200 sax Reg. Cement & 3% CaCl and 1/4#/bbl. flocele with Centralizers on bottom 3 collars and insert float valve, by Dowell. Plug down @ 12:00 P.M. Dev. 1 1/4 deg. @ 1015'. W.O.C. |
| 6-22-73     | 1015         | 2438      | Shale            | Pressure tested casing to 1500#. Held O.K. for 30 mins. Tested BOP with pipe rams - held 1000# O.K. Drilling with salt water-gel mud.   |

AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)

| <u>DATE</u> | <u>FROM</u>  | <u>TO</u>    | <u>FORMATION</u> | <u>REMARKS</u>   |
|-------------|--------------|--------------|------------------|--|
| 6-23-73     | 2438         | 3574         | Sand & Shale     | Drilling. Bit #2. Dev. 1½ deg. @ 2868; 1½ deg. @ 3328.   |
| 6-24-73     | 3574         | 3958         | Sand & Shale     | Drilling with Bit #4.  |
| 6-25-73     | 3958         | 4431         | Lime & Shale     | Drilling with Bit #5. Dev. 2 degs. @ 4007. Dev. 2 degs. @ 4431.  |
| 6-26-73     | 4431         | 4700         | Lime             | Dev. 1-3/4 degs. @ 4431.   |
| 6-27-73     | 4700         | 4987         | Sand & Shale     | Dev. 1½ degs. @ 4987; M.W. 10.7#; Vis. 38.   |
| 6-28-73     | 4987<br>5180 | 5180<br>5225 | Shale<br>Sand    | Mud. Wt. 10.9#; Vis. 36; W.L. 9cc.   |
| 6-29-73     | 5225         | 5408         | Lime             | Dev. 2 degs. @ 5300; M.W. 10.5#; Vis. 40; W.L. 4.4 cc.   |
| 6-30-73     | 5408         | 5587         | Lime             | Dev. 1½ degs. @ 5433; SLM 5443 = 5443. Twisted off @ 5587. 8 drill collars in hole. M.W. 10.6#; Vis. 38; W.L. 8 cc.  |
| 7-1-73      | 5587         | 5738         | Lime             | Recovered fish with overshot. Fan cut radiator on #2 pump motor. Drilling with 1 pump motor. M.W. 11.0; Vis. 41; W.L. 9 cc.  |
| 7-2-73      | 5738         | 5818         | Lime             | M.W. 11.1#; Vis. 45; W.L. 8 cc. DST No. 1 by Johnston with MFE Chamber, from 5804 to 5818. No water cushion, 15/16" bottom choke, 1/4" top choke, opened with weak blow of 15 min. preflow period, shut in tool for 30 mins., opened tool for 120 mins. main flow period with weak steady blow. Shut in tool for 90 mins. for final shut in period. Recovered 290' fluid: 200 heavy oil and gas cut drilling mud, est. 15% oil and 90' of mud cut salt water with trace of oil. BIT 219 degs. F. IHMP 3448#; IFP 32#-35#; FFP 46#-110#; ISIP 2947#; FSIP 2972#; FHMP 3424#; MFE Chamber pressure 96#; Rec. 0.05 cu. ft. gas; 120 cc oil and 1700 cc muddy salt water in chamber. Pressures indicate good test. |

AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)

| <u>DATE</u> | <u>FROM</u>       | <u>TO</u> | <u>FORMATION</u> | <u>REMARKS</u>  |
|-------------|-------------------|-----------|------------------|---|
| 7-3-73      | 5818              | 5850      | Lime             | Drilled to total depth at 5:15 a.m. SLM 5850 = 5850. Ran Schlumberger Dual Laterolog from 5852 to 1005. Ran Schlumberger Compensated Neutron-Formation Density Log from 5853 to 5540. Job terminated due to cable failure. Quality of density uncertain because of cable failure. |
| 7-4-73      | Total Depth 5850. |           |                  | Plugged and abandoned.<br>Plug #1 30 sax 5730-5630.<br>Plug #2 30 sax 5250-5150.<br>Plug #3 30 sax 4825-4725.<br>Plug #4 30 sax 3600-3500.<br>Plug #5 30 sax 2420-2320.<br>Plug #6 10 sax Top of Surf. Casg. with Dry Hole Marker.  |

STATE OF MONTANA           )  
  ) ss.  
COUNTY OF ROOSEVELT       )

On this 1st day of December, 1995, before me, the undersigned, a Notary Public for the State of Montana, personally appeared Caleb Shields and Jackie Miller, known to me to be the Chairman and Secretary, respectively, of the Fort Peck Tribes, that executed the within ~~instrument and acknowledged to me that said Fort Peck Tribes executed the same.~~

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate first above written.

Earlene C. Ackerman

Notary Public for State of Montana

Residing at: Poplar, MT

My commission expires: 12/2/98

(Notarial Seal)



STATE OF LOUISIANA

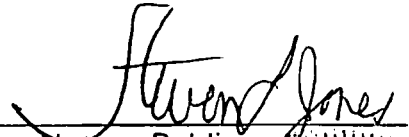
PARISH OF ORLEANS

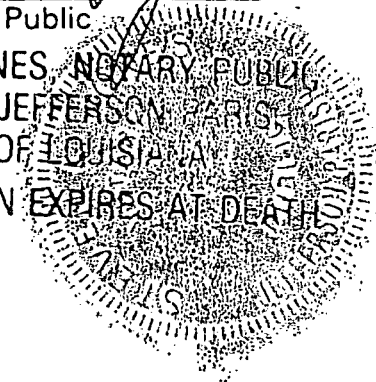
On this 20<sup>th</sup> day of December, 1995, before me, a Notary Public, duly commissioned, qualified and acting, within and for the said Parish and State, appeared in person the within named Woods W. Allen and Walter K. Compton to me personally well known, who stated that they were the Sr. Vice President and Assistant Secretary of Murphy Exploration & Production Company, a corporation, and were duly authorized in their capacities to execute the foregoing instrument for and in the name and behalf of said corporation, and further stated and ~~acknowledged that they had so signed, executed and delivered said foregoing~~ instrument for the consideration, uses and purposes therein mentioned and set forth.

In Testimony Whereof, I have hereunto set my hand and official seal.

My Commission Expires:

At Death

  
Notary Public  
STEVEN L. JONES, NOTARY PUBLIC  
IN AND FOR JEFFERSON PARISH  
STATE OF LOUISIANA  
MY COMMISSION EXPIRES AT DEATH



RESOLUTION #4047-95-10

TRIBAL GOVERNMENT

WHEREAS, the Fort Peck Tribal Executive Board is the duly elected body representing the Assiniboiné and Sioux Tribes of the Fort Peck Reservation and is empowered to act on behalf of the Tribes. All actions shall be adherent to provisions set forth in the 1960 Constitution and By-Laws and Public Law #83-449, and

WHEREAS, the Fort Peck Tribal Minerals Resource Office is recommending that all tribal bids on oil and gas lease sale 9/95 be accepted, and

WHEREAS, tribal tracts 206, 210, 221, 222, 225, 226, 227, 228, 237, 247 and 251 be recommended for approval, now

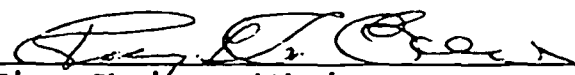
~~THEREFORE BE IT RESOLVED, that the Tribal Executive Board hereby~~  
approves of tribal tracts bidden on oil and gas sale 9/95.

## C E R T I F I C A T I O N

I, the undersigned Secretary Accountant of the Tribal Executive Board of the Assiniboiné and Sioux Tribes of the Fort Peck Indian Reservation, hereby certify that the Tribal Executive Board is composed of 12 voting members of whom 10 constituting a quorum were present at a Special meeting duly called and convened this 9th day of October, 1995 that the foregoing resolution was duly adopted at such meeting by the affirmative vote of 8 for, 0 opposed.

APPROVED:

  
Secretary-Acct./Secretary

  
Vice Chairman/Chairman  
Ft. Peck Tribal Executive Board

Wyman Babby, Superintendent  
Fort Peck Agency

RECORD OWNERS, OIL AND GAS

CONTRACT NO. \_\_\_\_\_

SALE NO. \_\_\_\_\_

206 31168

ALLOTMENT NO T6234

SALE TRACT NO 251 \_\_\_\_\_

Assiniboine & Sioux Tribes

NW $\frac{1}{4}$ , Sec. 26, T.28N., R.51E.

SALE DATE 10/03/1995

Containing 160.00 acres more or less

| IDENT      | NAME AND ADDRESS                        | INTEREST     | D- O- B  |
|------------|---|--------------|----------|
| 2065000030 | PECK TRIBES, FORT                       | 1.0000000000 | 99 99 99 |
|            | <del>XXXXXXXXXXXXXXXXXXXXXXXXXXXX</del> |              |          |
|            | <del>XXXXXXXXXXXXXXXXXXXXXXXXXXXX</del> |              |          |
|            | POPLAR, MT 59255                        |              |          |
|            |   | 1.0000000000 |          |
|            | <del>XXXXXXXXXXXXXXXXXXXXXXXXXXXX</del> |              |          |

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RAO-457  
(1-86)

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF INDIAN AFFAIRS

OIL AND GAS MINING LEASE - TRUST LANDS

LEASE NO. \_\_\_\_\_  
CONTRACT NO. 14-20-0256-8854  
ALLOTMENT NO. 16234  
SALE NO. 9795  
TRACT NO. 251

Authority - This Lease is Authorized Under Provisions Of 25 CFR - Sections 211, 212, and 216 and others

This Indenture Of Lease, made and entered into quintuplicate this 28th day of November, 19 95, by and between The Assiniboine-Sioux Tribes of the Fort Peck Reservation, of c/o Caleb Shields, Chairman, P. O. Box 1027, Poplar, State of Montana 59255, for and on behalf of the Assiniboine-Sioux Tribe of Indians, Lessor and Murphy Exploration & Production Company of 131 South Robertson, New Orleans, State of La. 70161-1780, Lessee:

WITNESSETH

1. Lessor, in consideration of a cash bonus of \$ 5,240.00 paid to the payee designated by the Superintendent, receipt of which is hereby acknowledged and in consideration of rents and royalties to be paid, and the conditions to be observed as herein set forth, does hereby grant and lease to the Lessee the exclusive right and privilege to drill for, mine, extract, remove, and dispose of all the oil, and natural gas, deposits in or under the following-described tracts of land situated in the county of Roosevelt, State of Montana, and more particularly described as follows:

Township 28 North, Range 51 East  
Section 26: NW 1/4  
containing 160.00 acres more or less, together with the right to construct and maintain with compensation thereupon all works, buildings, plants, waterways, roads, telegraph and telephone lines, pipelines, reservoirs, tanks, pumping stations, or other structures necessary to the full enjoyment thereof for the term of 5 years, from and after the approval hereof by the Secretary of the Interior, and as long as there is production in paying quantities.

provided that there is excluded from this lease all oil

and gas from the surface to the top of the Muddy formation

2. The term "Oil and Gas Supervisor" as employed herein shall refer to such officer or officers as the Secretary of the Interior may designate to supervise oil and gas operations on Indian Lands. The term "Superintendent" as used herein shall refer to the Superintendent or other official in charge of the Indian Agency having jurisdiction over the lands leased, or his authorized agents or representatives.

3. In consideration of the foregoing, the Lessee hereby agrees: (A) BOND - To furnish such bond as may be required by the regulations of the Secretary of the Interior, with satisfactory surety, or United States bonds as surety therefor, conditioned upon compliance with terms of this lease. (B)(1) WELLS - To drill and produce all wells necessary to offset or protect the lands from drainage. The necessity for offset wells shall be determined by the Oil and Gas Supervisor after affording the Lessor and Lessee a reasonable opportunity to be heard on the issue. In the event the Oil and Gas Supervisor determines that drainage is present, the Lessee, within ninety (90) days from the completion of the draining well, may either commence and diligently prosecute the drilling of an offset well on the leased premises to the formation from which such draining well is producing, or pay royalty at the rate fixed in this lease from the date of completion of the draining well as if the draining well were located upon and producing from the premises covered by this lease. Where a draining well on adjacent land is within five hundred (500) feet of the premises covered by this lease, the Lessee, pending the final determination of the issue of drainage, shall pay royalty from the date of completion of the draining well at the rate fixed in this lease on the same basis as prescribed in this section for draining wells more than five hundred feet from the leased premises; Provided, That such royalty payments shall be held by the Secretary of the Interior in interest-bearing suspense accounts pending the final determination of the issue of drainage; (2) at the election of the Lessee to drill and produce other wells; Provided, that the right to drill and produce such other wells shall be subject to any duly approved system of well spacing, or production allotments, that affect the field or area in which the leased lands are situated and are authorized by applicable federal law or regulations approved by the Secretary of the Interior. (3) If the Lessee fails to drill and produce such other wells for any period, the Secretary of the Interior may, upon ten (10) days notice in writing and an opportunity to be heard, order the Lessee to drill and produce such wells within a reasonable time after the date of the order, but not to exceed 90 days, or in lieu of drilling, the Lessee shall pay the Lessor each month for the loss of royalties as fixed in an agreement between the Lessor and Lessee approved by the Secretary of the Interior fixing the amount of the compensatory payment.

(C) RENTAL AND ROYALTY: (1) To pay, beginning with the date of approval of the lease by the Secretary of the Interior or by his duly authorized representative, a rental of 3.00 per acre per annum in advance during the continuance hereof. This rental shall not be credited on production royalty or prorated or refunded because of surrender or cancellation or for any other reason. Where the acreage stated in the advertisement is more or less than the actual acreage, the Superintendent shall adjust the bonus and annual rental to reflect the actual acreage, unless the difference is inconsequential. (2) To pay a royalty of 6 2/3 percent of the value or amount of all oil, gas, and/or natural gasoline, and/or all other hydrocarbon substances produced and saved on the land leased. If the royalty on production paid during any year aggregates less than \$3.00 per acre, the Lessee must pay the difference at the end of the lease year, in addition to rental and other payments required under this lease. During the period of supervision, "value" for the purposes hereof may, in the discretion of the Secretary, be calculated on the basis of the highest price paid or offered (whether calculated on the basis of short or actual volume) at the time of production for oil of the same gravity, and gas, and/or natural gasoline, and the actual volume of the marketable product less the content of foreign substances as determined by the Oil and Gas Supervisor. The value for gas will be calculated on the basis of interstate/intrastate value in sales, whichever value being highest. At the discretion of the Superintendent, the Lessee shall submit to the Agency all pertinent documents related to the marketing value of said hydrocarbons. The actual amount realized by the Lessee from the sale of said products shall be deemed mere evidence of such value. When paid in value, such royalties shall be due and payable monthly on the last day of the calendar month following the calendar month in which produced; when royalty on oil produced is paid in kind, such



royalty hydrocarbons shall be delivered in containers provided by the lessee on the premises where produced without cost to the Lessor unless otherwise agreed to by the parties thereto, at such times as may be required by the Lessor: PROVIDED; that the Lessee shall not be required to hold such royalty hydrocarbons in storage longer than 30 days after the end of the calendar month in which said oil is produced; AND PROVIDED FURTHER, that the Lessee shall, in no manner, be responsible or held liable for loss or destruction of such hydrocarbons in storage caused by acts of God. All rental and royalty payments, except as provided in 4(B) shall be made by check or draft drawn on a solvent bank, open for the transaction of business on the day the check or draft is issued to the Lessor or payee designated by the Superintendent with a remittance to the Oil and Gas Supervisor. It is understood that in determining the value (for royalty purposes) of products, such as natural gasoline that are derived from treatment of gas, allowance for the cost of manufacture shall be made, such allowance to be the actual cost of making the product marketable unless otherwise determined by the Secretary of the Interior, or upon application of the Lessee on his own initiative, that royalty will be computed on the value of gas or casinghead gas, or on the products thereof (such as residue gas, natural gasoline, propane, butane, and etc.) whichever is the greater. In no event may 'value' for the purposes of this lease be less than the fair market value of the production.

(3) Penalty For Late Payment or Underpayment. Any Lessee who fails to make timely or full, or proper payment of any monies due to the mineral owner(s) pursuant to this lease, shall pay a penalty of 10 percent of the amount past due plus interest at the prime rate plus 2 points from the due date to the date of payment. Prime rates shall be not less than the prime rate figures maintained by the Federal Reserve Board.

(D) MONTHLY STATEMENT AND REPORTS - To furnish each month to the Oil and Gas Supervisor, Superintendent and Lessor, statements in detail in such form as may be prescribed by the Secretary of the Interior, showing the amount, quality, and value of all oil, gas, natural gasoline, or other hydrocarbon substances produced and saved during the preceding calendar month. To furnish, separately to the Superintendent and the Lessor, at or about the time of filing with the appropriate federal agency, one copy each of any application for drilling locations and of all production and operation reports, including, but not limited to, drilling locations, well abandonments, completion reports, production reports, royalty reports, production tax reports and all other operational information pertaining to this lease.

Where the Lessee employs automated data processing in the preparation of the Lessee's royalty and production reports, and said data is furnished to the appropriate federal agency, a printout of the same shall be furnished to the Superintendent and the Lessor.

The leased premises and all wells, producing operations, improvements, machinery, and fixtures on the lease, or connected with the lease, and all books and accounts of the Lessee shall, upon request, be open at all times for inspection by any duly authorized representative of the Secretary of the Interior or of the Lessor.

(E) LOG OF WELL - To keep a log in the form prescribed by the Secretary of the Interior of all wells drilled by the lessee showing the strata and character of the formations passed through by the drill, which log or copy thereof shall be furnished to the Oil and Gas Supervisor, the Superintendent and Tribes.

(F) DILIGENCE, PREVENTION OF WASTE - To exercise reasonable diligence in drilling and operating wells for oil and gas on the lands covered hereby, while such products can be secured in paying quantities; to carry on all operations hereunder in a good and workmanlike manner in accordance with approved methods and practice, having due regard for the prevention of waste of oil and gas developed on the land, or the entrance of water through wells drilled by the lessee to the productive sands or oil or gas-bearing strata to the destruction or injury of the oil or gas deposits, the preservation and conservation of the property for future productive operations, and to the health and safety of workmen and employees; to plug securely all wells before abandoning the same and to effectually shut off all water from the oil or gas-bearing strata; not to drill any well within 1320 feet of any house or barn now on the premises without the Superintendent's written consent; to carry out at the expense of the lessee all reasonable orders and requirements of the Oil and Gas Supervisor relative to prevention of waste, and preservation of the property and the health and safety of workmen; to bury all pipelines below plow depth; where the Lessor is the surface owner to pay the Superintendent for the benefit of the Lessor, all damages to crops, buildings, and other improvements resulting from the Lessee's operations, as agreed upon by the Lessor and the Lessee, or in the absence of such an agreement, as determined by the Superintendent, after reasonable notice to the Lessor and Lessee affording the affected parties an opportunity to present evidence on the issue of damages; Provided, that the Lessee shall not be held responsible for delays beyond the Lessee's control.

(G) REGULATIONS - To abide by and conform to any and all regulations of the Secretary of the Interior now or hereafter in force relative to such leases, including 25 CFR Part 211 and 212, 43 CFR, Part 3160; and applicable Tribal Ordinances and Regulations. PROVIDED: That no regulation hereafter approved shall effect a change in rate of royalty or annual rental herein specified without the written consent to the parties to this lease.

(H) ASSIGNMENT OF LEASE - Not to assign this lease or any interest therein and not to sublet any portion of the leased premises before restrictions are removed, except with the approval of the Secretary of the Interior. Complete copies of all assignments, partial assignments, designations of operator, farm-out agreements, or reservations of overriding royalties shall be furnished to the Superintendent and the Tribes.

4. THE LESSOR EXPRESSLY RESERVES: (A) USE OF GAS - The right to use sufficient gas free of charge and free of royalty to the Lessee for any dwelling or other buildings belonging to or operated by the Lessor on said lands by making connection at its own expense with the wells thereon, the use of such gas to be at the Lessor's risk at all times. (B) ROYALTY IN KIND - The right to elect on 30 days written notice to take Lessor's royalty in kind. Lessee agrees to permit Lessor to use its gas gathering lines to transport the Lessor's royalty gas, with the Lessor paying the negotiated cost thereof, and to reserve, in any contract for sale of gas, the right to the Lessor to similarly use any pipeline owned by third parties for use by the Lessor of its royalty gas on the reservation, with the Lessor paying the negotiated cost of pipeline connections and transport.

5. THE SURFACE OWNER EXPRESSLY RESERVES: (A) DISPOSITION OF SURFACE - The right to lease, sell, or otherwise dispose of the surface of the lands embraced within this lease under existing law or laws hereafter enacted, such disposition to be subject at all times to the right of the Lessee herein to the use of so much of said surface as is necessary in the extraction and removal of the oil and gas from the land herein described.

6. **SURRENDER AND TERMINATION** - The Lessee shall have the right at any time during the term of the lease to surrender and terminate this lease or any part of it upon the payment of \$5.00 and all rentals, royalties, and other obligations due and payable to the Lessor; and in the event restrictions against alienation have been removed, upon a showing satisfactory to the Lessor that full provision has been made for the conservation and protection of the property and the proper abandonment of all wells drilled on the portion of the lease surrendered. The lease shall continue in full force and effect as to the lands not so surrendered. In the event restrictions against alienation have not been removed the same showing shall be made to the Secretary of the Interior. If this lease has been recorded, the Lessee's application to the Superintendent for termination of this lease shall be accompanied by a recorded release.

7. **REMOVAL OF BUILDINGS, IMPROVEMENTS, AND EQUIPMENT** - Lessee shall have the right to remove from the lease premises, within 90 days after termination of this lease, any and all buildings, structures, casing, material, and/or equipment owned by the Lessee and placed on the lease for the purpose of development operation hereunder, save and except casing in wells and other material, equipment, and structures necessary for the continued operation of wells producing or capable of being produced in paying quantities as determined by the Secretary of the Interior, that are on the leased land at the time of surrender or termination of this lease. Except as otherwise provided in this lease, all casing in wells, material, structures, and equipment shall be and become the property of the Lessor.

8. **DRILLING AND PRODUCING RESTRICTIONS** - It is covenanted and agreed that the Secretary of the Interior may impose restrictions as to time or times for the drilling of wells and as to the production from any well or wells drilled when in his judgement such action may be necessary or proper for the protection of the natural resources of the leased land and the interests of the Indian Lessor, and in the exercise of his judgment the Secretary may take into consideration, among other things, federal laws, state laws, or regulations by competent federal or state authorities or lawful agreements among operators regulating either drilling or production, or both; Provided, that in the exercise of his authority under this section, the Lessor shall not be exposed to greater economic loss than an informed private owner of the mineral estate would suffer in like circumstances.

9. **CANCELLATION AND FORFEITURE** - When, in the opinion of the Secretary of the Interior or the Lessor, there has been a violation of any of the terms and conditions of this lease, the Secretary of the Interior shall have the right at any time after 30 days' notice to the Lessee, specifying the terms and conditions violated, and after a hearing, if the Lessee shall so request within 30 days of receipt of notice, to declare this lease null and void, and the Lessor shall then be entitled and authorized to take immediate possession of the land.

10. **RELINQUISHMENT OF SUPERVISION BY THE SECRETARY** - Nothing contained in this lease shall operate to delay or prevent a termination of federal trust responsibilities with respect to the land by the issuance of a fee patent or otherwise during the terms of the lease. However, in the event of such termination the lease shall continue in full force and effect as between the Lessor and Lessee. Whenever the lease imposes on the Lessee a duty or obligation to the Secretary of the Interior, the Lessee shall be bound to fulfill the same duty or obligation to the Lessor. The owners of the land and the Lessee and his surety or sureties shall be notified by the Secretary of any such change in the status of the land.

11. **UNIT OPERATION** - No agreement for the cooperative or unit development for the field or area, affecting the leased lands, or any pool thereof, shall be valid without the advance consent of the Lessor, or its duly authorized representative and the approval of the Secretary of the Interior.

12. **CONSERVATION** - The lessee in consideration of the rights herein granted agrees to abide by the provisions of any Act of Congress, or any order or regulations prescribed pursuant thereto, relating to the conservation, production, or marketing of oil, gas, or other hydrocarbon substances.

13. **DRY HOLES: WATER WELLS** - Before plugging and abandoning any well, the Lessee shall notify the Lessor by telephone, or in person (and later confirm the notice in writing) as to whether or not the well is capable of producing water satisfactory for domestic or agricultural purposes. Within twenty-four (24) hours after such notice is given, the Lessee, upon request of the lessor, approved by the Superintendent, without charge shall plug back any such well to a depth mutually agreeable to the parties and shall condition such well for the production of water. The Lessor shall bear the costs of conditioning. After a well is so conditioned, the well shall be the responsibility of the Lessor and the Lessee shall be relieved from any further obligation or liability whatsoever, with respect to such well.

14. **EMPLOYMENT OF INDIANS** - The Lessee shall comply with the law of the Tribes governing the employment of Indians.

15. **HEIRS AND SUCCESSORS IN INTEREST** - It is further covenanted and agreed that each obligation hereunder shall extend to and be binding upon, and every benefit hereof shall inure to, the heirs, executors, administrators, successors of, or assigns of the respective parties hereto.

16. **INSPECTION** - The Secretary of the Interior, the Lessor, or their respective authorized representatives, each reserve the right to inspect and monitor at all reasonable times (a) the leased premises and all improvements, including without limitation drill sites, pits, fences, and access roadways; (b) all production and operating facilities, including without limitation wells, gauges, meters, valves, machinery, fixtures and other associated improvements; (c) the Lessee's reclamation procedures associated with drilling and production; and (d) Lessee's books and records relating to the operation of the lease and showing the persons with an interest in the lease.

The Secretary of the Interior, the Lessor, or their respective authorized representatives, each reserve the right to gauge, measure, or otherwise verify the quantity and quality of oil, gas, and/or other hydrocarbons produced on the lease.

17. All reports and requirements as referenced in this lease which are required by the Tribe shall be limited to Tribal Mineral Estates. Those reports pertinent to allotted mineral estates shall be filed with the Superintendent.

18. **LESSOR INTEREST CLAUSE.** If the Lessor owns an interest less than the entire undivided interest in the leased oil and gas, then unless there is a valid agreement to some other division, the bonus, rentals and royalties stipulated in this lease shall be paid to the Lessor in the proportion that the Lessor's interests bear to the whole and undivided interest in said land.

19. DIVISION OF FEE - It is covenanted and agreed that should the fee of said land now or hereafter be divided into separate parcels, held by different owners, or should the rental or royalty interests hereunder be so divided in ownership, the obligation of the Lessee hereunder shall not be added to or changed in any manner whatsoever save as specifically provided by the terms of this lease. Notwithstanding such separate ownership, Lessee may continue to drill and operate said premises as an entirety: Provided, that each separate owner shall receive such proportion of all rentals and royalties accruing after the vesting of his title as the acreage of the fee, or rental or royalty interest, bears to the entire acreage covered by the lease; or to the entire rental and royalty interest as the case may be: Provided further, that if, at any time after Departmental Supervision hereof is relinquished, in whole or in part, there shall be four or more parties entitled to rentals or royalties hereunder, whether said parties are so entitled by virtue of undivided interests or by virtue of ownership of separate parcels of the land covered hereby, Lessee, at his election may withhold the payment of further rentals or royalties (except as to the portion due the Indian Lessor while under restriction), until all of said parties have agreed upon and designated in writing and in a recordable instrument a trustee to receive all payment due hereunder on behalf of said parties and their respective successors in title. Payments to said trustee shall constitute lawful payments hereunder, and the sole risk of an improper or unlawful distribution of said funds by said trustee shall rest upon the parties naming said trustee and their respective successors in title.

20. PAYING QUANTITIES - As used in this lease "paying quantities" means not less than an average daily production of five barrels of oil or 30.3 mcf of gas over a three-month consecutive period.

21. NOTICE TO LESSOR. Except as otherwise provided in this lease, any notice to be given to the Lessor shall be by delivery in person or by registered or certified mail, return receipt requested, addressed as follows:

Chairman, Tribal Executive Board, Assiniboine and Sioux Tribes, P.O. Box 1027, Poplar, Montana 59255

with a copy to the Following:

Tribal Secretary, Assiniboine and Sioux Tribes, P.O. Box 1027, Poplar, Montana 59255

and a copy to: Superintendent, Fort Peck Indian Agency, Bureau of Indian Affairs, Poplar, Montana 59255

22. APPLICATION OF THIS LEASE. The terms and conditions of this lease and the obligations hereunder imposed on the Lessee shall extend to, and only to, the Lessee's operations within the boundaries of the Fort Peck Reservation.

IN WITNESS WHEREOF, the said parties have hereunto subscribed their names and affixed their seals on the day and year first above mentioned;

Two witnesses to execution by Lessor:

\_\_\_\_\_  
P.O. \_\_\_\_\_  
\_\_\_\_\_  
P.O. \_\_\_\_\_

Two witnesses to execution by Lessee:

\_\_\_\_\_  
P.O. \_\_\_\_\_  
\_\_\_\_\_  
P.O. \_\_\_\_\_

Caleb Shields (Seal)  
The Assiniboine Sioux Tribes of the Fort  
Peck Reservation - By Caleb Shields, Chairman  
Janice Miller (Seal)

Wood W. Allen  
Murphy Exploration & Production Company  
Attest: Walter H. Long

#### ACKNOWLEDGMENT

State of \_\_\_\_\_ County of \_\_\_\_\_  
Before me, a notary public, on this \_\_\_\_\_ day of \_\_\_\_\_, 19\_\_\_\_, personally appeared \_\_\_\_\_  
to me known to be the identical person(s) who executed the within and  
foregoing lease, and acknowledged to me that \_\_\_\_\_ executed the same as  
\_\_\_\_\_ free and voluntary act and deed for the uses and purposes therein set  
forth.

My commission expires \_\_\_\_\_

Notary Public for the State of \_\_\_\_\_  
Residing at \_\_\_\_\_

APPROVED:

OCT 09 1996

DEPARTMENT OF THE INTERIOR  
Bureau of Indian Affairs  
Fort Peck Indian Agency  
Poplar, Montana

[Signature]  
Superintendent

"209 DM 8, Secretary's Order Nos. 3150  
and 3177, and 10 BIAM Bulletin 13, as  
amended, and the Addendum to 10 BIAM  
dated May 14, 1993."

RECORDED  
511  
BUREAU OF INDIAN AFFAIRS  
LAND TITLE AND  
RECORDS OFFICE  
OCT 23 9 33 AM '96

205-60719  
ASSIGNED EFFECTIVE 12/31/52 FROM C.H. MURPHY, Jr. ALL TO: MURPHY CORPORATION 15/32  
PLACID OIL CO. 16/32

ASSIGNED EFFECTIVE 9/29/54 FROM MURPHY TO: MARINE OIL 1/4 OF 15/32 OR 15/128  
OWNERS: MURPHY 45/128, Wm. & THEODOSA NOLAN 1/32  
PLACID OIL CO. 64/128, NOLANS 4/128, & MARINE OIL 15/128

ASSIGNED EFFECTIVE 4/1/55 FROM MARINE OIL TO Wm. J. SHERRY 1/4 OF 15/128 OR 15/512  
OWNERS: MURPHY 180/512, PLACID OIL CO. 256/512, NOLANS 16/512, MARINE OIL 45/512,  
& Wm. J. SHERRY 15/512

ASSIGNED EFFECTIVE 4/4/55 FROM Wm. J. SHERRY TO: MURPHY 1/4 OF 15/512 OR 15/2048  
OWNERS: MURPHY 735/2048, PLACID OIL CO. 1024/2048, NOLANS 64/2048, MARINE OIL 180/2048,  
& Wm. J. SHERRY 45/2048

ASSIGNED EFFECTIVE 4/2/82 FROM PLACID OIL CO. TO: PARTNERSHIP PROPERTIES COMPANY- ALL  
OWNERS: MURPHY 735/2048, NOLANS 64/2048, MARINE OIL 180/2048, Wm. J. SHERRY 45/2048,  
& PARTNERSHIP PROPERTIES COMPANY 1024/2048

ASSIGNED EFFECTIVE 12/16/86 FROM PARTNERSHIP PROPERTIES COMPANY TO: FAIRWAY RESOURCES, INC.  
(896/2048), & TPEX EXPLORATION, INC. (128/2048)  
OWNERS: MURPHY 735/2048, NOLANS 64/2048, MARINE OIL 180/2048, Wm. J. SHERRY 45/2048,  
FAIRWAY RESOURCES, INC. 896/2048, & TPEX EXPLORATION, INC. 128/2048

ASSIGNED EFFECTIVE 12/16/86 FROM FAIRWAY RESOURCES, INC. (896/2048) TO: WELLSTAR CORPORATION  
(896/2048)

ASSIGNED EFFECTIVE 3/19/87 FROM: TPEX EXPLORATION, INC. (128/2048) TO: MURPHY OIL USA, INC.

ASSIGNED EFFECTIVE 3/19/87 FROM: WELLSTAR CORPORATION (896/2048) TO: MURPHY OIL USA, INC.



Form No. 3

GENERAL RULES  
201, 202, 211,  
214, 215, 221(SUBMIT IN QUADRUPLICATE)  
TOOIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF MONTANA  
BILLINGS OR SHELBY

## SUNDRY NOTICES AND REPORT OF WELLS

NOTICE  
THIS FORM BECOMES A  
PERMIT WHEN STAMPED  
APPROVED BY AN AGENT  
OF THE COMMISSION.

|  |   |  |
|--|---|--|
| Notice of Intention to Drill                     | X | Subsequent Report of Water Shut-off                    |
| Notice of Intention to Change Plans              |   | Subsequent Report of Shooting, Acidizing, or Cementing |
| Notice of Intention to Test Water Shut-off       |   | Subsequent Report of Altering Casing                   |
| Notice of Intention to Redrill or Repair Well    |   | Subsequent Report of Redrilling or Repair              |
| Notice of Intention to Shoot, Acidize, or Cement |   | Subsequent Report of Abandonment                       |
| Notice of Intention to Pull or Alter Casing      |   | Supplementary Well History                             |
| Notice of Intention to Abandon Well              |   | Report of Fracturing                                   |

(Indicate Above by Check Mark Nature of Report, Notice, or Other Data)

May 1, 1973

Following is a notice of intention to do work on land described as follows:

LEASE U.S.A. (Schmidt)

MONTANA  
(State)Roosevelt  
(County)Poplar  
(Field)

Well No. 1-27 Section 27 28 North 51 East M.P.M.

The well is located 660 ft. from N line and 660 ft. from W line of Sec. 27

LOCATE ACCURATELY ON PLAT ON BACK OF THIS FORM THE WELL LOCATION, AND SHOW LEASE BOUNDARY

The elevation of the ground above the sea level is 2077'

READ CAREFULLY

DETAILS OF PLAN OF WORK

CORES AND CUTTINGS TO BE DELIVERED  
TO COMMISSION CREW CHIEF ONLY IN  
ACCORDANCE WITH  
RULE NO 229NG WITH THE COMMISSION ALL  
ORTS, SURVEYS AND PLATS  
RUN IS REQUIRED IN ACCORDANCE WITH  
E NO. 230.DETAILS OF WORK  
RESULT

1. Run and cement 13-3/8", 48# Casing at approximately 150' with 75 sacks of cement.
2. Run and cement 8-5/8", 24# Casing at approximately 900' with 350 sacks of cement.
3. Hydraulic Blow-out Preventor Installed and surface casing tested before drilling out shoe plug. BOP tested daily.
4. Drill 5900' of 7-7/8" hole through Charles "C" Zone.
5. Drill Stem Test shows oil and gas as drilling progresses.
6. Run Electric Logs at Total Depth.
7. Run and cement 5-1/2" OD, 15.5# Casing at 5900' with 300 sacks of cement, if productive.
8. Perforate producing zone and produce the well through tubing.

Approved subject to conditions on reverse of form

Company AMARCO RESOURCES CORPORATION

Date MAY 25 1973 MAY 25 1973

By Robert D. Snyder

ORIGINAL SIGNED BY  
By Robert D. Snyder, Petroleum Geologist  
District Office Agent

Title Petroleum Engineer

Address 611 Midland Bank Building  
Billings, Montana 59101COMMISSION USE ONLY  
API WELL NUMBERNOTE.—Reports on this form to be submitted to the District Agent for Approval in Quadruplicate  
WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL

OVER

REPORTED TO: 1. DISTRICT AGENT

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEYSUBMIT IN TRIPLICATE\*  
(Other instructions on re-  
verse side)Form approved.  
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

BLM-A (M) 029305-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

1420-0256-4047

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

USA (Schmidt)

9. WELL NO.

1-27

10. FIELD AND POOL, OR WILDCAT

East Poplar

11. SEC., T., R., M., OR BLK. AND  
SURVEY OR AREA

Sec. 27-28N-51E

12. COUNTY OR PARISH

Roosevelt

13. STATE

Montana

1. OIL WELL ☐ GAS WELL ☐ OTHER

2. NAME OF OPERATOR

AMARCO RESOURCES CORPORATION

3. ADDRESS OF OPERATOR

611 Midland Bank Building, Billings, Montana 59101

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.\*  
See also space 17 below.)  
At surface

660' FNL, 660' FWL Section 27

Twp. 28 North, Rge. 51 East

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

2088' K.B.

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

## NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON\*

CHANGE PLANS

X

## SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT\*

X

(NOTE: Report results of multiple completion on Well  
Completion or Recompletion Report and Log form.)17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any  
proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones perti-  
nent to this work.)\*Verbal permission to plug and abandon obtained July 3, 1973 from Virgil L. Pauli,  
District Engineer, Billings, Montana, to be plugged as follows:

|          |            |               |
|----------|------------|---------------|
| 1st Plug | 5730-5630' | 30 sax cement |
| 2nd Plug | 5250-5150' | 30 " "        |
| 3rd Plug | 4825-4725' | 30 " "        |
| 4th Plug | 3600-3500' | 30 " "        |
| 5th Plug | 2420-2320' | 30 " "        |
| 6th Plug | Top 8-5/8" | 10 " "        |

Surf. Casing w/Dry Hole Marker

13-3/8" OD Casing at 134' with 210 sax cement.

8-5/8" OD Casing at 1002' with 600 sax cement.

Proprietary / Confidential Information  
U. S. Gov't Use Only

18. I hereby certify that the foregoing is true and correct

SIGNED

TITLE Petroleum Engineer

DATE July 9, 1973

(This space for Federal or State office use)

APPROVED BY

TITLE

ADM-MINERALS

DATE

DEC 19 1984

CONDITIONS OF APPROVAL, IF ANY:

\*See Instructions on Reverse Side

ORIGINAL FORWARDED TO CASPER

-



A MARCO 1-27

4 C N O N W  
085-21080

LOCATE WELL CORRECTLY

|   |  |  |  |
|---|--|--|--|
| + |  |  |  |
|   |  |  |  |
|   |  |  |  |
|   |  |  |  |

(SUBMIT IN TRIPLICATE)  
TO

OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF MONTANA  
BILLINGS OR SHELBY

## LOG OF WELL



Form No. 4  
(Rule 206.3 & 231)

Company Amarco Resources Corporation Lease U.S.A. (Schmidt) Well No. 1-27  
 Address 611 Midland Bank Building  
Billings, Montana 59101 Field (or Area) East Poplar  
 The well is located 660 ft. from (N) line and 660 ft. from (W) line of Sec. 27  
 Sec. 27; T. 28N; R. 51E; County Roosevelt; Elevation 2077' Ground  
 (D.F., R.B. or G.L.)  
 Commenced drilling June 20, 1973, 19  ; Completed July 4, 1973

The information given herewith is a complete and correct record of the well. The summary on this page is for the condition of the well at the above date.

Completed as a Dry Hole  
 (oil well, gas well, dry hole)  
 Signed Robert D. Snyder  
 Title Petroleum Engineer  
 Date August 15, 1973

### IMPORTANT ZONES OF POROSITY

(denote oil by O, gas by G, water by W; state formation if known)

|  |   |
|--|---|
| From <u>4900'</u> to <u>4947'</u> (Tyler Sand) <u>W w/sh O</u> | From <u>          </u> to <u>          </u> |
| From <u>5808'</u> to <u>5826'</u> (Chas. C) <u>W &amp; O</u>   | From <u>          </u> to <u>          </u> |
| From <u>          </u> to <u>          </u>                    | From <u>          </u> to <u>          </u> |
| From <u>          </u> to <u>          </u>                    | From <u>          </u> to <u>          </u> |

### CASING RECORD

| Size Casing | Weight Per Ft. | Grade    | Thread | Casing Set | From | To    | Sacks of Cement | Cut and Pulled from |
|-------------|----------------|----------|--------|------------|------|-------|-----------------|---------------------|
| 13-3/8      | 41#            | OSC-3 RR | 8rd    | 124'       | 10'  | 134'  | 210             |                     |
| 8-5/8       | 24#            | OSC-3J   | 8 rd   | 992'       | 10'  | 1002' | 400             |                     |
|             |                |          |        |            |      |       |                 |                     |

### TUBING RECORD

| Size Tubing | Weight Per Ft. | Grade | Thread | Amount | Perforations |
|-------------|----------------|-------|--------|--------|--------------|
|             |                |       |        |        |              |

### COMPLETION RECORD

Rotary tools were used from -0- to 5852'  
 Cable tools were used from            to             
 Total depth            ft.; Plugged back to            T.D.; Open hole from            to           

#### PERFORATIONS

| Interval | Number and Size and Type |
|----------|--------------------------|
| From To  |                          |
| NONE     |                          |
|          |                          |

#### ACIDIZED, SHOT, SAND FRACED, CEMENTED

| Interval | Amount of Material Used | Pressure |
|----------|-------------------------|----------|
| From To  |                         |          |
| NONE     |                         |          |
|          |                         |          |

(If P&A show plugs above)

### INITIAL PRODUCTION

Well is producing from            (pool) formation.

I. P.            barrels of oil per            hours  
 (pumping or flowing)

           Mcf of gas per            hours.  
           barrels of water per            hours, or            % W.C.  
 (OVER)

# INITIAL PRODUCTION—(Continued)

Initial 10-day average production \_\_\_\_\_ (bbl./day) (if taken)  
 Pressures (if measured): Tubing \_\_\_\_\_ psi flowing; \_\_\_\_\_ psi shut-in  
 Casing \_\_\_\_\_ psi flowing; \_\_\_\_\_ psi shut-in  
 Gravity \_\_\_\_\_ ° API (corrected to 60° F.)

## DRILL STEM TESTS

| D.S.T. No. | From | To   | Tool Open (Min.) | Shut-In | F.P.   | S.I.P.    | Recovery  | Cushion |
|------------|------|------|------------------|---------|--------|-----------|---|---------|
| 1          | 5804 | 5818 | 120              | 90      | 35-110 | 2947-2972 | Rec. 290' fluid: 200' HO&GC DM: 15% oil & 90' of MCSW w/tr 0. | ==      |
|            |      |      |                  |         |        |           |   |         |
|            |      |      |                  |         |        |           |   |         |
|            |      |      |                  |         |        |           |   |         |
|            |      |      |                  |         |        |           |   |         |
|            |      |      |                  |         |        |           |   |         |
|            |      |      |                  |         |        |           |   |         |
|            |      |      |                  |         |        |           |   |         |

## LOGS RUN

| Type   | Intervals |      |
|--|-----------|------|
|  | From      | To   |
| Schlumberger Dual Laterolog                            | 5852      | 1005 |
| Schlumberger Compensated Neutron-Formation Density Log | 5853      | 5540 |

\*

\*Job terminated due to cable failure. Quality of density uncertain because of cable failure.

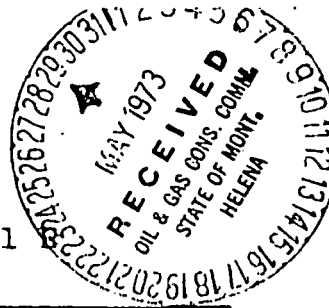
## FORMATION RECORD

| From | To | SAMPLE AND CORE NO. AND DESCRIPTION | Top of Formation |
|------|----|-------------------------------------|------------------|
|      |    | Greenhorn                           | 2368             |
|      |    | Muddy                               | 2968             |
|      |    | Dakota Silt                         | 3162             |
|      |    | Dakota Sand                         | 3230             |
|      |    | Lakota Sand                         | 3495             |
|      |    | Morrison Shale                      | 3610             |
|      |    | Swift Sand                          | 3620             |
|      |    | Vanguard                            | 3948             |
|      |    | Rlerdon Lime                        | 4130             |
|      |    | Piper Shale                         | 4300             |
|      |    | Piper Limestone                     | 4376             |
|      |    | Kline                               | 4526             |
|      |    | Spearfish                           | 4634             |
|      |    | Amsden                              | 4734             |
|      |    | Tyler Formation                     | 4860             |
|      |    | Tyler Sand                          | 4900             |
|      |    | Otter Shale                         | 5006             |
|      |    | Kibbey                              | 5160             |
|      |    | Kibbey Lime                         | 5317             |
|      |    | Charles                             | 5480             |
|      |    | A-1                                 | 5502             |
|      |    | A-2                                 | 5512             |
|      |    | A-3                                 | 5525             |
|      |    | A-4                                 | 5533             |
|      |    | B-1                                 | 5656             |
|      |    | B-2                                 | 5673             |
|      |    | B-3                                 | 5692             |
|      |    | B-4                                 | 5724             |
|      |    | C-1                                 | 5802             |
|      |    | C-2                                 | 5808             |
|      |    | TOTAL DEPTH                         | 5852             |



FORM F-106

R. 51

Tank Bottom  
Proposed Loc

660

#1-27

Elev.. 2076.5 (Before Grading)

27

T.  
28 N

Scale... 1" = 1000'

Powers Elevation Company, Inc. of Denver, Colorado  
has in accordance with a request from Snyder  
for Amarco Resources Corporation

determined the location of # 1 - 27 USA

to be Center - NW NW

Section 27 Township 28N

Range 51E Montana Principal

Meridian

Roosevelt

County, Montana

I hereby certify that this plat is an  
accurate representation of a correct  
survey showing the location of

# 1 - 27 USA

Date: 4/27/73

Ronald F. Bastin

Licensed Land Surveyor No. 3517E  
State of Montana

Locate well by footage measurement from legal subdivision line, lease or property line and nearest drilling or producible well, if any.

Form No. 2  
File at  
Billings  
or Shelby

Rge. 51 E

Form No. 2  
File at  
Billings  
or Shelby

Locate  
Well  
Correctly

Locate  
Lease  
Boundary

Twp. 28N

27

SCALE—1"=2000'

THE NOTICE OF INTENTION TO DRILL THIS WELL IS APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

- Any person, before commencing the drilling of any oil or gas well, shall secure from the commission a drilling permit and shall pay to the commission therefor for the following amounts: for each well whose estimated depth is, thirty-five hundred (3,500) feet or less, twenty-five dollars (\$25.00); from thirty-five hundred and one (3,501) feet to seven thousand (7,000) feet, seventy-five dollars (\$75.00); seven thousand (7,000) feet and deeper, one hundred twenty dollars (\$120.00).
- No well is to be spudded in unless the proper surety drilling bond has been posted and approved by the Oil and Gas Conservation Commission of the State of Montana.
- Cable tool operators must construct an adequate sump to contain all mud and water bailed from the hole.
- Surface or conductor casing must be properly cemented by an approved method to act as a tie in case an unexpected flow of oil, gas, or water should be encountered, unless special permission has been granted for formation shut-off.
- Any contemplated change in status of a well such as to plug and abandon, deepen, plug back, redrill, alter casing, etc., must be presented on Sundry Notices and Report of Wells form for approval by agent prior to commencement of work.
- All substantial showings of oil or gas must be tested for commercial possibilities, before drilling ahead. Each such showing must be adequately protected by casing, mud, or cement, as drilling progresses.
- The production string must be cemented unless a formation shut-off or packer is approved by the agent. Sufficient cement must be used to protect the casing and possible productive formation exposed in the process of drilling not otherwise protected.
- All production strings of casing must be tested by bailing or pressure to determine if there is a tight bond with the formation or possible leaks in the casing. The results of the test must be reported on Sundry Notices and Report of Wells form, said report to include the size, weight, thread and length of casing; amount of cement used, and date work is done. If test shows failure, the defect must be corrected before any drilling operations are resumed.
- A satisfactory drilling record must be kept for each tour, showing top and thickness of each and all formations drilled and all other information of value, one copy of which is to be kept at the rig while drilling is in progress for examination when an agent visits the well.
- All producing wells must be marked with name of the operator, number of the well, and location, using reasonable precautions to preserve these markings at all times.
- Copies of [all] directional surveys, electrical logs, or tops from electrical log if electrical survey is run, formation tests, and cementing record, as furnished by the cementing company, etc., must be filed with the State Inspector of the district together with four copies of the log, upon completion of the well.
- All work must be done in conformity with the regulations of the Oil & Gas Conservation Commission of the State of Montana, as contained in "General Rules and Regulations," and amendments thereto, as well as regulations prescribed in lieu thereof.



## WELL COMPLETION OR RECOMPLETION REPORT AND LOG\*

|  |                 |  |                         |
|--|-----------------|--|-------------------------|
| 1a. TYPE OF WELL:<br>OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input checked="" type="checkbox"/> Other _____   |                 | 7. UNIT AGREEMENT NAME _____   |                         |
| b. TYPE OF COMPLETION:<br>NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> Other _____  |                 | S. FARM OR LEASE NAME<br>USA (Schmidt)                               |                         |
| 2. NAME OF OPERATOR<br>Amarco Resources Corporation  |                 | 9. WELL NO.<br>1-27  |                         |
| 3. ADDRESS OF OPERATOR<br>611 Midland Bank Building, Billings, Montana 59101   |                 | 10. FIELD AND POOL, OR WILDCAT<br>East Poplar                        |                         |
| 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*<br>At surface 660' South of North Line & 660' East of West Line<br>Sec. 27, Twp. 28 North, Rge. 51 East.<br>At top prod. interval reported below<br>At total depth Same as above. |                 | 11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA<br>Sec. 27-28N-51E |                         |
| 14. PERMIT NO. _____ DATE ISSUED<br>May 24, 1973   |                 | 12. COUNTY OR PARISH<br>Roosevelt                                    |                         |
| 15. DATE SPUDDED<br>6-20-73  |                 | 13. STATE<br>Montana   |                         |
| 16. DATE T.D. REACHED<br>7-3-73  |                 | 19. ELEV. CASINGHEAD<br>2077'  |                         |
| 17. DATE COMPL. (Ready to prod.)<br>7-4-73   |                 | 18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*<br>2088' RKB                 |                         |
| 20. TOTAL DEPTH, MD & TVD<br>5850'   |                 | 23. INTERVALS DRILLED BY<br>0-5850'                                  |                         |
| 21. PLUG, BACK T.D., MD & TVD  |                 | ROTARY TOOLS   |                         |
| 22. IF MULTIPLE COMPL., HOW MANY*  |                 | CABLE TOOLS  |                         |
| 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*  |                 | 25. WAS DIRECTIONAL SURVEY MADE<br>No                                |                         |
| 26. TYPE ELECTRIC AND OTHER LOGS RUN<br>Schlumberger Dual Laterolog  |                 | 27. WAS WELL CORED<br>No   |                         |
| 28. CASING RECORD (Report all strings set in well)   |                 |  |                         |
| CASING SIZE  | WEIGHT, LB./FT. | DEPTH SET (MD)   | HOLE SIZE               |
| 13-3/8"  | 41#             | 134'   | 15"                     |
| 8-5/8"   | 24#             | 1002'  | 12-1/4"                 |
| CEMENTING RECORD   |                 | AMOUNT PULLED  |                         |
| 200 sacks cement   |                 | None   |                         |
| 600 sacks cement   |                 | None   |                         |
| 29. LINER RECORD   |                 |  |                         |
| SIZE   | TOP (MD)        | BOTTOM (MD)  | DEPTH SET (MD)          |
| 30. TUBING RECORD  |                 |  |                         |
| SIZE   | DEPTH SET (MD)  | PACKER SET (MD)  |                         |
| 31. PERFORATION RECORD (Interval, size and number)   |                 |  |                         |
| 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.   |                 |  |                         |
| DEPTH INTERVAL (MD)  |                 | AMOUNT AND KIND OF MATERIAL USED                                     |                         |
| 33.* PRODUCTION  |                 |  |                         |
| DATE FIRST PRODUCTION  |                 | PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) |                         |
| WELL STATUS (Producing or shut-in)   |                 |  |                         |
| DATE OF TEST   | HOURS TESTED    | CHOKE SIZE   | PROD'N. FOR TEST PERIOD |
| OIL—BBL.   | GAS—MCF.        | WATER—BBL.   | GAS-OIL RATIO           |
| FLOW. TUBING PRESS.  | CASING PRESSURE | CALCULATED 24-HOUR RATE  | OIL—BBL.                |
| GAS—MCF.   | WATER—BBL.      | OIL GRAVITY-API (CORR.)  |                         |
| 34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)   |                 |  |                         |
| TEST WITNESSED BY  |                 |  |                         |
| 35. LIST OF ATTACHMENTS<br>Well Report with Sample Descriptions, Dual Laterolog & Drill Stem Test Report.  |                 |  |                         |
| 36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records  |                 |  |                         |
| SIGNED _____   |                 | TITLE Petroleum Engineer   |                         |
| DATE July 13, 1973   |                 |  |                         |

\*(See Instructions and Spaces for Additional Data on Reverse Side)

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# INSTRUCTIONS

**General:** This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on Items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see Item 35.

**Item 4:** If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

**Item 18:** Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

**Items 22 and 24:** If this well is completed for separate production from more than one interval zone (multiple completion), so state in Item 22, and in Item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in Item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

**Item 29: "Sacks Cement":** Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

**Item 33:** Submit a separate completion report on this form for each interval to be separately produced. (See instruction for Items 22 and 24 above.)

## 37. SUMMARY OF POROUS ZONES:

SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES

| FORMATION   | TOP   | BOTTOM | DESCRIPTION, CONTENTS, ETC.    |
|---|-------|--------|--------------------------------|
| Tyler Sand  | 4900' | 4947'  | Water with show of oil at top. |
| Charles<br>C-2 Zone   | 5808' | 5826'  | Water and oil                  |
| DST #1, 5804-5818, Johnson Testers, no water cushion, MFE, Tool open 15 mins. with weak blow - 1" to 2" in bucket of water; Shut tool in 30 mins. opened tool for 120 mins. with weak steady blow; 1" in bucket of water; shut tool in 90 mins. Recovered 290' of fluid; 200' heavy gas and oil cut mud, est. 15% oil; 90' salt water with trace of oil. MFE Chamber pressure 96#, recovered 0.05 cubic feet gas; 120 cc oil and 1700 cc salt water. Bottom hole temp. 219 degs. F. 15/16" bottom choke, 1/4" top choke. Initial Hydrostatic mud pressure 3448#. IFP 32#-35#; FFP 46#-110#; ISIP 2947#; FSIP 2972#; Final Hydrostatic mud pressure 3424#. |       |        |                                |

## 38. GEOLOGIC MARKERS

| NAME            | TOP         |                  |
|-----------------|-------------|------------------|
|                 | MEAS. DEPTH | TRUE VERT. DEPTH |
| Greenhorn       | 2368        |                  |
| Muddy           | 2968        |                  |
| Dakota Silt     | 3162        |                  |
| Dakota Sand     | 3230        |                  |
| Lakota          | 3495        |                  |
| Morrison        | 3610        |                  |
| Swift           | 3620        |                  |
| Rierdon         | 4130        |                  |
| Piper Limestone | 4376        |                  |
| Amsden          | 4734        |                  |
| Tyler Sand      | 4900        |                  |
| Otter           | 5006        |                  |
| Kibbey Lime     | 5317        |                  |
| Charles         | 5480        |                  |
| C Zone          | 5808        |                  |
| Total Depth     | 5850        |                  |

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE\*

(See other in-  
structions on  
reverse side)Form approved  
Budget Bureau No. 42-R355.5.

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG\*

|   |  |   |                                    |  |                                    |   |                                |
|---|--|---|------------------------------------|--|------------------------------------|---|--------------------------------|
| 1. TYPE OF WELL:  |  | OIL WELL <input type="checkbox"/>   | GAS WELL <input type="checkbox"/>  | DBY <input checked="" type="checkbox"/>                              | Other <input type="checkbox"/>     |   |                                |
| b. TYPE OF COMPLETION:  |  | NEW WELL <input checked="" type="checkbox"/>                                  | WORK OVER <input type="checkbox"/> | DEEP-EN <input type="checkbox"/>                                     | PLUG BACK <input type="checkbox"/> | DIFF. RESVR. <input type="checkbox"/>   | Other <input type="checkbox"/> |
| 2. NAME OF OPERATOR<br>Amarco Resources Corporation   |  |   |                                    |  |                                    |   |                                |
| 3. ADDRESS OF OPERATOR<br>611 Midland Bank Building, Billings, Montana 59101  |  |   |                                    |  |                                    |   |                                |
| 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*<br>At surface 660' South of North Line & 660' East of West Line<br>Sec. 27, Twp. 28 North, Rge. 51 East<br>At top prod. interval reported below<br>At total depth Same as above. |  |   |                                    |  |                                    |   |                                |
| 14. PERMIT NO.  |  |   |                                    | DATE ISSUED<br>May 24, 1973  |                                    |   |                                |
| 15. DATE SPUDDED<br>6-20-73   |  | 16. DATE T.D. REACHED<br>7-3-73   |                                    | 17. DATE COMPL. (Ready to prod.)<br>7-4-73                           |                                    | 18. ELEVATIONS (DT, REB, RT, GR, ETC.)*<br>2088' RKB  |                                |
| 19. ELEV. CASINGHEAD<br>2077'   |  | 20. TOTAL DEPTH, MD & TVD<br>5850'  |                                    | 21. PLUG. BACK T.D., MD & TVD  |                                    | 22. IF MULTIPLE COMPL. HOW MANY*  |                                |
| 23. INTERVALS DRILLED BY<br>→   |  | 24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* |                                    | 25. WAS DIRECTIONAL SURVEY MADE<br>No                                |                                    | 26. TYPE ELECTRIC AND OTHER LOGS RUN<br>Schlumberger Dual Laterolog   |                                |
| 27. WAS WELL CORED<br>No  |  | 28. CASING RECORD (Report all strings set in well)                            |                                    | 29. LINER RECORD   |                                    | 30. TUBING RECORD   |                                |
| CASING SIZE   |  | WEIGHT, LB./FT.   |                                    | DEPTH SET (MD)   |                                    | HOLE SIZE   |                                |
| 13-3/8"   |  | 41#   |                                    | 134'   |                                    | 15"   |                                |
| 8-5/8"  |  | 24#   |                                    | 1002'  |                                    | 12-1/4"   |                                |
| CEMENTING RECORD  |  | AMOUNT PULLED   |                                    | SIZE   |                                    | DEPTH SET (MD)  |                                |
| 200 sacks cement  |  | None  |                                    | 15"  |                                    | 134'  |                                |
| 600 sacks cement  |  | None  |                                    | 12-1/4"  |                                    | 1002'   |                                |
| 31. PERFORATION RECORD (Interval, size and number)  |  | 32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.                                |                                    | DEPTH INTERVAL (MD)  |                                    | AMOUNT AND KIND OF MATERIAL USED  |                                |
| AUG 1 1973  |  | CASPER, WYOMING   |                                    |  |                                    |   |                                |
| 33. PRODUCTION  |  | DATE FIRST PRODUCTION   |                                    | PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) |                                    | WELL STATUS (Producing or shut-in)  |                                |
| DATE OF TEST  |  | HOURS TESTED  |                                    | CHOKED SIZE  |                                    | PROD'N. FOR TEST PERIOD   |                                |
| FLOW. TUBING PRESS.   |  | CASING PRESSURE   |                                    | CALCULATED 24-HOUR RATE  |                                    | OIL—BBL. GAS—MCF. WATER—BBL. OIL GRAVITY-API (CORR.)  |                                |
| 34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)  |  | TEST WITNESSED BY   |                                    | 35. LIST OF ATTACHMENTS  |                                    | 36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records |                                |
| SIGNED  |  | TITLE   |                                    | DATE   |                                    | Well Report with Sample Descriptions, Dual Laterolog & Drill Stem Test Report.  |                                |
| Robert D. Hughes  |  | Petroleum Engineer  |                                    | July 13, 1973  |                                    |   |                                |

\*(See Instructions and Spaces for Additional Data on Reverse Side)

COPY RETAINED DISTRICT OFFICE

## S U M M A R Y

OPERATOR: AMARCO RESOURCES CORPORATION

OTHER INTERESTS: HARRY J. PARKER, MURPHY OIL CORPORATION,  
PLACID OIL COMPANY, MUNOCO COMPANY, C. F. LUNDGREN.

NAME OF WELL: U.S.A. (SCHMIDT) NO. 1-27.

LOCATION: 660' FNL; 660' FWL SECTION 27,  
TOWNSHIP 28 NORTH, RANGE 51 EAST,  
ROOSEVELT COUNTY, MONTANA

ELEVATION: 2077' GROUND: 2088' K.B.

TOTAL DEPTH: 5850' DRILLER: 5852' SCHLUMBERGER:

COMMENCED DRILLING: JUNE 20, 1973 @ 1:00 A.M.

COMPLETED DRILLING: JULY 4, 1973

DRILL STEM TESTS: DST NO. 1, 5804-5818'; RECOVERED OIL CUT MUD  
AND WATER.

CORES: NONE

LOGS: SCHLUMBERGER DUAL LATEROLOG & COMPENSATED  
NEUTRON FORMATION DENSITY.

CASING: 13-3/8", 41# @ 134' WITH 210 SACKS CEMENT.  
8-5/8", 24# @ 1002' WITH 600 SACKS CEMENT.

STATUS: PLUGGED AND ABANDONED JULY 4, 1973.

SAMPLES: MONTANA OIL & GAS COMMISSION, BILLINGS, MONTANA.  
AMERICAN STRATIGRAPHIC COMPANY, BILLINGS, MONTANA.



AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)ELECTRIC LOG TOPS

| <u>NAME OF FORMATION</u> | <u>DEPTH BELOW K.B.</u> | <u>SUBSEA DEPTH</u> |
|--------------------------|-------------------------|---------------------|
| Greenhorn                | 2368'                   | - 280'              |
| Muddy                    | 2968'                   | - 880'              |
| Dakota Silt              | 3162'                   | -1074'              |
| Dakota Sand              | 3230'                   | -1142'              |
| Lakota Sand              | 3495'                   | -1407'              |
| Morrison Shale           | 3610'                   | -1522'              |
| Swift Sand               | 3620'                   | -1632'              |
| Vanguard                 | 3948'                   | -1860'              |
| Rierdon Lime             | 4130'                   | -2042'              |
| Piper Shale              | 4300'                   | -2212'              |
| Piper Limestone          | 4376'                   | -2288'              |
| Kline                    | 4526'                   | -2438'              |
| Spearfish                | 4634'                   | -2546'              |
| Amsden                   | 4734'                   | -2646'              |
| Tyler Formation          | 4860'                   | -2772'              |
| Tyler Sand               | 4900'                   | -2812'              |
| Otter Shale              | 5006'                   | -2918'              |
| Kibbey                   | 5160'                   | -3072'              |
| Kibbey Lime              | 5317'                   | -3229'              |
| Charles                  | 5480'                   | -3392'              |
| A-1                      | 5502'                   | -3414'              |
| A-2                      | 5512'                   | -3424'              |
| A-3                      | 5525'                   | -3437'              |
| A-4                      | 5533'                   | -3445'              |
| B-1                      | 5656'                   | -3568'              |

AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)ELECTRIC LOG TOPS CONTINUED

| <u>NAME OF FORMATION</u> | <u>DEPTH BELOW K.B.</u> | <u>SUBSEA DEPTH</u> |
|--------------------------|-------------------------|---------------------|
| B-2                      | 5673'                   | -3585'              |
| B-3                      | 5692'                   | -3604'              |
| B-4                      | 5724'                   | -3636-              |
| C-1                      | 5802'                   | -3714'              |
| C-2                      | 5808'                   | -3720'              |
| TOTAL DEPTH              | 5852'                   | -3764'              |

## AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)

H I S T O R Y

| <u>DATE</u> | <u>DEPTH</u> |           | <u>FORMATION</u> | <u>REMARKS</u>  |
|-------------|--------------|-----------|------------------|---|
|             | <u>FROM</u>  | <u>TO</u> |                  |   |
| 4-27-73     |              |           |                  | Staked location 660' FHL & 660' FWL, Section 27, Twp. 28 North, Rge. 51 East, Roosevelt Co., Mont. by Powers Elevation Survey Company. Elevation: 2077' Ground.   |
| 5-1-73      |              |           |                  | Made application for Permit with U.S.G.S.   |
| 5-24-73     |              |           |                  | Application for Permit to Drill approved by U.S.G.S.  |
| 6-13-73     |              |           |                  | Dug pits, leveled location.   |
| 6-18-73     |              |           |                  | Moving Rotary Rig to location from North Dakota.<br>Contractor: Cardinal Petroleum Co. Rig No. 2.   |
| 6-19-73     |              |           |                  | Rigged up rotary rig.   |
| 6-20-73     | 0            | 159       | Gravel & Shale   | Spudded 1:00 A.M. Drilled 15" hole. Ran and cemented 4 jts. (124') of 13-3/8" O.D. 41# & 63# with Centralizer on bottom jt. collar with 210 sax cement, 3% CaCl, 1/4#/bbl. flocele by Dowell. Plug down @ 4:30 P.M. Deviation 1/4 deg. @ 159. W.O.C.  |
| 6-21-73     | 159          | 1015      | Shale            | Drilled 12-1/4" hole. Ran and cemented 31 jts. (992') of 8-5/8" O.D. 24#, New Canadian Casing, 8rd. thd. @ 1002' with 400 sax Pozmix Cement, mixed with 6% gel, 2% Ca Cl and 1/4th# flocele followed by 200 sax Reg. Cement & 3% CaCl and 1/4#/bbl. flocele with Centralizers on bottom 3 collars and insert float valve, by Dowell. Plug down @ 12:00 P.M. Dev. 1 1/2 deg. @ 1015'. W.O.C. |
| 6-22-73     | 1015         | 2438      | Shale            | Pressure tested casing to 1500#. Held O.K. for 30 mins. Tested 80P with pipe rams - held 1000# O.K. Drilling with salt water-gel mud.   |

## AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)

| DATE    | FROM         | TO           | FORMATION     | REMARKS  |
|---------|--------------|--------------|---------------|--|
| 6-23-73 | 2438         | 3574         | Sand & Shale  | Drilling. Bit #2. Dev. $1\frac{1}{2}$ deg. @ 2868; $1\frac{1}{2}$ deg. @ 3328.   |
| 6-24-73 | 3574         | 3958         | Sand & Shale  | Drilling with Bit #4.  |
| 6-25-73 | 3958         | 4431         | Lime & Shale  | Drilling with Bit #5. Dev. 2 degs. @ 4007. Dev. 2 degs. @ 4431.  |
| 6-26-73 | 4431         | 4700         | Lime          | Dev. $1\frac{3}{4}$ degs. @ 4431.  |
| 6-27-73 | 4700         | 4987         | Sand & Shale  | Dev. $1\frac{1}{2}$ degs. @ 4987; M.W. 10.7#; Vls. 38.   |
| 6-28-73 | 4987<br>5180 | 5180<br>5225 | Shale<br>Sand | Mud. Wt. 10.9#; Vls. 36; W.L. 9cc.   |
| 6-29-73 | 5225         | 5408         | Lime          | Dev. 2 degs. @ 5300; M.W. 10.5#; Vls. 40; W.L. 4.4 cc.   |
| 6-30-73 | 5408         | 5587         | Lime          | Dev. $1\frac{1}{2}$ degs. @ 5433; SLH 5443 = 5443. Twisted off @ 5587. 8 drill collars in hole. M.W. 10.6#; Vls. 38; W.L. 8 cc.  |
| 7-1-73  | 5587         | 5738         | Lime          | Recovered fish with overshot. Fan cut radiator on #2 pump motor. Drilling with 1 pump motor. M.W. 11.0; Vls. 41; W.L. 9 cc.  |
| 7-2-73  | 5738         | 5818         | Lime          | M.W. 11.1#; Vls. 45; W.L. 8 cc. DST No. 1 by Johnston with MFE Chamber, from 5804 to 5818. No water cushion, 15/16" bottom choke, 1/4" top choke, opened with weak blow of 15 min. preflow period, shut in tool for 30 mins., opened tool for 120 mins. main flow period with weak steady blow. Shut in tool for 90 mins. for final shut in period. Recovered 250' fluid: 200 heavy oil and gas cut drilling mud, est. 15% oil and 90' of mud cut salt water with trace of oil. Bit 219 degs. F. IHP 34484; IFP 327-35#; FFP 464-1107; ISIP 29477; FSIP 29725; FHP 34244; IFE Chamber pressure 967; Rec. 0.05 cu. ft. gas; 120 cc oil and 1700 cc muddy salt water in chamber. Pressures indicate good test. |

## AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)

| <u>DATE</u> | <u>FROM</u>       | <u>TO</u> | <u>FORMATION</u> | <u>REMARKS</u>  |
|-------------|-------------------|-----------|------------------|---|
| 7-3-73      | 5818              | 5850      | Lime             | Drilled to total depth at 5:15 a.m. SLM 5850 = 5850. Ran Schlumberger Dual Laterolog from 5852 to 1005. Ran Schlumberger Compensated Neutron-Formation Density Log from 5853 to 5540. Job terminated due to cable failure. Quality of density uncertain because of cable failure. |
| 7-4-73      | Total Depth 5850. |           |                  | Plugged and abandoned.<br>Plug #1 30 sax 5730-5630.<br>Plug #2 30 sax 5250-5150.<br>Plug #3 30 sax 4825-4725.<br>Plug #4 30 sax 3600-3500.<br>Plug #5 30 sax 2420-2320.<br>Plug #6 10 sax Top of Surf. Casg. with Dry Hole Marker.  |

AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)BIT RECORD

| <u>NO.</u> | <u>SIZE</u> | <u>MAKE</u> | <u>TYPE</u> | <u>HOURS</u> | <u>FOOTAGE</u> |
|------------|-------------|-------------|-------------|--------------|----------------|
| A          | 12-1/4"     | HTC         | OSC-3 RR    | 6 1/2        | 149'           |
| 1-A        | 15"         | HTC         | OSC-3 RR    | 2            | 149'           |
| 28         | 12-1/4"     | HTC         | OSC-3 RR    | 9 1/4        | 881'           |
| 1          | 7-7/8"      | HTC         | OSC-3J      | 15 3/4       | 1853'          |
| 2          | 7-7/8"      | Reed        | YT-3        | 5 1/2        | 460'           |
| 3          | 7-7/8"      | HTC         | OSC1G-J     | 13 1/2       | 290'           |
| 4          | 7-7/8"      | HTC         | C1C-J       | 15           | 389'           |
| 5          | 7-7/8"      | HTC         | C1C         | 15           | 424'           |
| 6          | 7-7/8"      | HTC         | J-33        | 41 1/2       | 556'           |
| 7          | 7-7/8"      | Sec.        | S4T-J       | 11 1/2       | 209'           |
| 8          | 7-7/8"      | Reed        | Y-21        | 7 3/4        | 104'           |
| 9          | 7-7/8"      | Reed        | Y-21        | 13           | 143'           |
| 10         | 7-7/8"      | HTC         | OW-4        | 13           | 149'           |
| 11         | 7-7/8"      | Sec.        | M-4-N       | 19 1/2       | 151'           |
| 12         | 7-7/8"      | Sec.        | M-4-N       | 6 3/4        | 80'            |
| 13         | 7-7/8"      | Sec.        | M-4-N RR    | 3            | 32'            |

MUD RECORD

| <u>DESCRIPTION</u> | <u>UNITS USED</u> |
|--------------------|-------------------|
| Bringel            | 56                |
| Gel                | 38                |
| Myca               | 5                 |
| Cotton Hulls       | 5                 |
| Super Visbestos    | 4                 |
| Bar                | 325               |
| Desco              | 23                |
| Loid               | 199               |
| Fiber              | 1                 |
| Soda Ash           | 2                 |
| Detomer            | 3                 |
| Perservative       | 5                 |
| Sodium Chromide    | 2                 |

Total cost of mud estimated to be \$5,228.00

AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)  
C NWNW 27-28N-51E

SAMPLE DESCRIPTIONS  
 (NOT LAGGED)

| <u>DEPTH</u> |           | <u>DESCRIPTION</u>  |
|--------------|-----------|---|
| <u>FROM</u>  | <u>TO</u> |   |
| 30           | 120       | Gravel and sand, coarse grained.  |
| 120          | 750       | Shale, dark gray.   |
| 750          | 810       | Sand, med. to fine grained, loose, good porosity & permeability, no show.                   |
| 810          | 870       | Shale, dark gray.   |
| 870          | 930       | Sandstone, med. grained, white, angular, good porosity, good permeability, no show.         |
| 930          | 1620      | Shale, dark gray.   |
| 1620         | 1680      | Shale, gray, calcareous, with streak limestone, tan.  |
| 1680         | 1800      | Shale, gray, calcareous, and siltstone, light gray, hard.                                   |
| 1800         | 1950      | Shale, light gray, with streaks siltstone and limestone.                                    |
| 1950         | 2010      | Shale, gray.  |
| 2010         | 2040      | Shale, gray with streak limestone, tan.   |
| 2040         | 2250      | Shale, dark gray with white specks, calcareous (1st specks.)                                |
| 2250         | 2310      | Shale, gray.  |
| 2310         | 2340      | Shale, gray with white specks, calcareous.  |
| 2340         | 2370      | Shale, gray with streaks glauconitic siltstone.   |
| 2370         | 2580      | Shale, dark gray.   |
| 2580         | 2670      | Shale, dark gray with streaks shale, red.   |
| 2670         | 3180      | Shale, dark gray.   |
| 3180         | 3240      | Shale, dark gray, with siltstone, light gray.   |
| 3240         | 3330      | Sandstone, med. grained, rounded, white, good porosity and permeability, no show.           |
| 3330         | 3390      | Siltstone, light gray.  |
| 3390         | 3450      | Sandstone, med. to coarse grained, rounded, white, good porosity and permeability, no show. |

AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)SAMPLE DESCRIPTIONS CONTINUED

| <u>DEPTH</u> |           | <u>DESCRIPTION</u>  |
|--------------|-----------|---|
| <u>FROM</u>  | <u>TO</u> |   |
| 3450         | 3480      | Sandstone, med. to coarse grained, rounded, white,; good porosity and permeability, no show, plus shale, reddish brown. |
| 3480         | 3570      | Sandstone, coarse grained; angular, hard, white, good porosity and permeability, no show.                               |
| 3570         | 3630      | Shale, dark gray.   |
| 3630         | 3720      | Sandstone, fine grained, soft, galuconitic, silty, good porosity and permeability, no show.                             |
| 3720         | 3780      | As above, plus shale, red.  |
| 3780         | 3930      | Shale, silty, light gray and shale, red.  |
| 3930         | 3990      | Shale, light gray.  |
| 3990         | 4010      | Sandstone, fine grained, silty, gray, hard, fair porosity, fair permeability, no show.                                  |
| 4010         | 4020      | Shale, light gray, with bentonite.  |
| 4020         | 4040      | Sandstone, fine grained, hard, silty, angular, gray, fair porosity and permeability, no show.                           |
| 4040         | 4050      | Siltstone, light gray and shale, light gray.  |
| 4050         | 4060      | Shale, light gray, bentonitic.  |
| 4060         | 4130      | As above, with streak siltstone, light gray.  |
| 4130         | 4230      | Shale, as above, with limestone, gray.  |
| 4230         | 4260      | Shale, gray to dark gray, silty.  |
| 4260         | 4290      | Siltstone, light gray and shale, greenish.  |
| 4290         | 4310      | Shale, gray and greenish and limestone, light tan.  |
| 4310         | 4330      | Shale, as above and shale, red.   |
| 4330         | 4350      | Shale, red.   |
| 4350         | 4370      | Limestone, gray to light tan and shale, red.  |
| 4370         | 4380      | Shale, red.   |



AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)SAMPLE DESCRIPTIONS CONTINUED

| <u>DEPTH</u> |           | <u>DESCRIPTION</u>   |
|--------------|-----------|--|
| <u>FROM</u>  | <u>TO</u> |  |
| 4380         | 4420      | Limestone, light gray to light tan, dense with calcite filled fractures.         |
| 4420         | 4460      | Limestone, as above, plus siltstone, light gray.                                 |
| 4460         | 4470      | Shale, red.  |
| 4470         | 4500      | Shale, red, with streak siltstone, light gray to green and limestone, light tan. |
| 4500         | 4560      | Limestone, light tan to gray, dense.   |
| 4560         | 4600      | Shale, red, and limestone, light tan.  |
| 4600         | 4690      | Shale, red, and gypsum.  |
| 4690         | 4720      | Shale, red, and gypsum with streak limestone, gray and white.                    |
| 4720         | 4740      | Shale, red.  |
| 4740         | 4750      | Shale, red, and dolomite, white.   |
| 4750         | 4760      | Shale, red, silty.   |
| 4760         | 4790      | Dolomite, white, hard, dense, with shale, red, silty, no show.                   |
| 4790         | 4800      | Limestone, white, dense.   |
| 4800         | 4810      | Limestone, white, light tan, hard, dense, and reddish in part.                   |
| 4810         | 4820      | Shale, red, sandy and limestone, white.  |
| 4820         | 4830      | Limestone, white and shale, red, silty, hard.                                    |
| 4830         | 4840      | Shale, red, silty.   |
| 4840         | 4870      | Limestone, white and shale, red, silty and siltstone, red, hard.                 |
| 4870         | 4890      | Shale, red, silty with loose sand grains and streak gilsonite.                   |

AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)SAMPLE DESCRIPTIONS CONTINUED

| <u>DEPTH</u> |           | <u>DESCRIPTION</u>  |
|--------------|-----------|---|
| <u>FROM</u>  | <u>TO</u> |   |
| 4890         | 4910      | Sandstone, fine to med. grained, rounded, red, calcareous, hard, poor to fair porosity, yellow fluor., no cut, no show.   |
| 4910         | 4940      | Sandstone, fine to med. grained, angular, red, calcareous, hard, fair to good porosity, part has <u>yellow fluor. and good cut. Appears to be streaked oil saturation or show from top 10 feet.</u> |
| 4940         | 4950      | Sandstone as above with decreasing show of oil.   |
| 4950         | 4990      | Sandstone as above with white sandstone which includes pieces of pale yellow-green shale in sand.   |
| 4990         | 5000      | Sandstone as above with more white sandstone.   |
| 5000         | 5030      | Shale, green, red and sandstone as above.   |
| 5030         | 5040      | Shale as above with streak of dolomite, light cream, dense.   |
| 5040         | 5050      | Dolomite, light cream, and shale, green and red.  |
| 5050         | 5060      | Limestone, white and shale, black and red.  |
| 5060         | 5070      | Shale, dark gray, with streaks limestone, dolomitic, white.   |
| 5070         | 5080      | Limestone, dolomitic, hard, dense, white.   |
| 5080         | 5100      | Dolomite, white and limestone, dolomitic, and shale, red and dark gray.   |
| 5100         | 5110      | Shale, dark gray, red and green, and dolomite, as above.  |
| 5110         | 5120      | Limestone, dolomitic, dark gray and shale, red and green.   |
| 5120         | 5130      | Shale, speckled greenish-gray, dolomite and shale, red.   |
| 5130         | 5160      | Shale, dark gray and red, siltstone, light gray, dolomite, white.   |
| 5160         | 5180      | Sandstone, fine grained, angular, white, silicious, poor to no porosity, no show.   |
| 5180         | 5200      | Siltstone, red, hard and sandstone, as above, no show.  |

AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)SAMPLE DESCRIPTIONS CONTINUED

| <u>DEPTH</u> |           | <u>DESCRIPTION</u>  |
|--------------|-----------|---|
| <u>FROM</u>  | <u>TO</u> |   |
| 5200         | 5240      | Sandstone, fine grained, angular, hard, dense with shale, red, green, gray and brown, poor to no porosity, no show.                             |
| 5240         | 5330      | Shale, red, silty, with sandstone as above, and limestone, light tan.   |
| 5330         | 5350      | Limestone, light tan, and siltstone, pink.  |
| 5350         | 5380      | Shale, red, silty with streak siltstone and limestone.  |
| 5380         | 5450      | Shale, red, pink, green and gray with limestone, light tan.   |
| 5450         | 5460      | Limestone and dolomite, light tan to gray.  |
| 5460         | 5490      | Dolomite, light gray and limestone, dark gray and shale, red with gypsum.   |
| 5490         | 5500      | Dolomite and limestone, as above, and gilsonite.  |
| 5500         | 5525      | Limestone, dark gray, fractures, very fine grained, intergranular porosity, few pieces of oolitic limestone, well cemented, no show.            |
| 5525         | 5530      | Dolomite, light gray and limestone, dark gray, yellow fluor., no cut, red shale and white gypsum. (Show appears to be from the oil in the mud.) |
| 5530         | 5550      | Limestone, dark gray and dolomite, light gray, yellow fluor., no cut.   |
| 5550         | 5575      | Limestone, dark gray with oolitic limestone, well cemented, scattered throughout, no apparent show of oil.                                      |
| 5575         | 5595      | Limestone, dark gray and dolomite.  |
| 5595         | 5610      | Anhydrite, white, and limestone, dark gray, shale, red with gypsum.   |
| 5610         | 5620      | Dolomite, light tan, brown, fluor. yellow, no cut.  |
| 5620         | 5635      | Anhydrite and gypsum, limestone and dolomite, few scattered pieces have fluor. and cut.   |
| 5635         | 5645      | Dolomite and limestone, light tan to dark gray.   |
| 5645         | 5665      | Anhydrite, dappled, plus dolomite and limestone as above.   |

AMARCO RESOURCES CORPORATION NO. 1-27 U.S.A. (SCHMIDT)SAMPLE DESCRIPTIONS CONTINUED

| <u>FROM</u> | <u>TO</u> | <u>DESCRIPTION</u>   |
|-------------|-----------|--|
| 5665        | 5700      | Limestone and dolomite, light gray to dark gray, with gilsonite in some fractures.   |
| 5700        | 5815      | Dolomite, light tan and limestone, dark gray with shale, red and gray. All samples have fluor, and cut from oil in mud (?).  |
| 5815        | 5818      | Dolomite and limestone as above.   |
| 5818        |           | Circulated 15 mins. Dolomite and limestone as above.<br>Circulated 30 mins. Dolomite and limestone as above.<br>Circulated 45 mins. Dolomite and limestone as above.<br>Circulated 60 mins. Dolomite and limestone as above.<br>Dolomite has yellow fluor. and good cut. |
| 5818        | 5850      | Dolomite and limestone, light tan to dark gray.  |
|             | 5850      | TOTAL DEPTH.   |





PRODUCTION &  
INJECTION DATA

REVISION 1





(SUBMIT IN QUADRUPPLICATE)

TO

OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF MONTANA  
BILLINGS OR SHELBY

## SUNDRY NOTICES AND REPORT OF WELLS

## NOTICE

THIS FORM BECOMES A  
PERMIT WHEN STAMPED  
APPROVED BY AN AGENT  
OF THE COMMISSION.

|  |  |   |   |
|--|--|---|---|
| Notice of Intention to Drill                     |  | Subsequent Report of Water Shut-off                 |   |
| Notice of Intention to Change Plans              |  | Subsequent Report of Shooting, Acidizing, Cementing |   |
| Notice of Intention to Test Water Shut-off       |  | Subsequent Report of Altering Casing                |   |
| Notice of Intention to Redrill or Repair Well    |  | Subsequent Report of Redrilling or Repair           |   |
| Notice of Intention to Shoot, Acidize, or Cement |  | Subsequent Report of Abandonment                    | X |
| Notice of Intention to Pull or Alter Casing      |  | Supplementary Well History                          |   |
| Notice of Intention to Abandon Well              |  | Report of Fracturing                                |   |

(Indicate Above by Check Mark Nature of Report, Notice, or Other Data)

August 15, 1973

Following is a ~~notice of intention to do work~~ report of work done on land ~~owned~~ leased described as follows:

LEASE U.S.A. (Schmidt) ✓

MONTANA  
(State)

Roosevelt

(County)

Poplar

(Field)

Well No. 1-27 NW 1/4 Sec. 27 28 North 51 East M.P.M.  
(m. sec.) (Township) (Range) (Meridian)

The well is located 660' ft. from N line and 660' ft. from W line of Sec. 27.

LOCATE ACCURATELY ON PLAT ON BACK OF THIS FORM THE WELL LOCATION, AND SHOW LEASE BOUNDARY

The elevation of the Ground above the sea level is 2077'.

READ CAREFULLY

DETAILS OF PLAN OF WORK

READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.)

DETAILS OF WORK  
RESULT

Verbal permission to plug and abandon obtained July 3, 1973 from Virgil L. Pauli, District Engineer, Billings, Montana, and was plugged as follows:

|          |            |    |            |
|----------|------------|----|------------|
| 1st Plug | 5730-5630' | 30 | sax cement |
| 2nd Plug | 5250-5150' | 30 | "          |
| 3rd Plug | 4825-4725' | 30 | "          |
| 4th Plug | 3600-3500' | 30 | "          |
| 5th Plug | 2420-2320' | 30 | "          |
| 6th Plug | Top 8-5/8" | 10 | "          |

Surf. Csg. at 134' with Dry Hole Marker

13-3/8" OD Casing at 134' with 210 sax cement.

8-5/8" OD Casing at 1002' with 600 sax cement.

Approved subject to conditions on reverse of form

Company AMARCO RESOURCES CORPORATION

Date JUL - 2 1984

By ROBERT D. SNYDER

By *Clair H. Haughey*  
District Office Agent

Title PETROLEUM ENGINEER

LOCATION INSPECTED &amp; APPROVED

Address 611 MIDLAND BANK BUILDING  
BILLINGS, MONTANA 59101COMMISSION USE ONLY  
API WELL NUMBER

NOTE:—Reports on this form to be submitted to the District Agent for Approval in Quadruplicate

WHEN USED AS PERMIT TO DRILL, THIS EXPIRES 90 DAYS FROM DATE OF APPROVAL.

OVER

3. REPORTER PRtg. &amp; SUPPLY CO.

(SUBMIT IN QUADRUPLICATE)

TO

OIL AND GAS CONSERVATION COMMISSION  
OF THE STATE OF MONTANA  
BILLINGS OR SHELBY

## SUNDRY NOTICES AND REPORT OF WELLS

7-4-73 - C.K.

## NOTICE

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APPROVED BY AN AGENT  
OF THE COMMISSION.

|  |  |   |   |
|--|--|---|---|
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The well is located 660' ft. from N line and 660' ft. from W line of Sec. 27

LOCATE ACCURATELY ON PLAT ON BACK OF THIS FORM THE WELL LOCATION, AND SHOW LEASE BOUNDARY

The elevation of the ~~ground~~ ~~surface~~ above the sea level is 2077'

## READ CAREFULLY

## DETAILS OF PLAN OF WORK

## READ CAREFULLY

(State names of and expected depths to objective sands; show size, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work, particularly all details results Shooting, Acidizing, Fracturing.)

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Date JUL - 2 1984

By ROBERT D. SNYDER

By *Glenn H. Hargreaves*  
District Office Agent Title

Title PETROLEUM ENGINEER

LOCATION INSPECTED &amp; APPROVED

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API WELL NUMBER

|       |        |      |  |  |  |  |  |  |  |
|-------|--------|------|--|--|--|--|--|--|--|
| 2     | 5      |      |  |  |  |  |  |  |  |
| STATE | COUNTY | WELL |  |  |  |  |  |  |  |

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OVER

3 REPORTER PRtg. &amp; SUPPLY CO.